1:32 Heath Engineering MC2 Bale Chaser Model Kit

CLEAN ALL RESIN PARTS IN WARM SOAPY WATER

The silicone release agent used in the casting process will react with paint, it must be thoroughly cleaned off before painting.

This is a rough guide to using the kit. Care should be taken at each stage to make sure the model is going together correctly and any alterations that are not in the instructions should be carried out.

Glue: Recommended glue is a good quality super glue such as Gorilla Super Glue

Paint: The instructions will suggest the best point to paint components. A good quality automotive primer or plastic primer followed by automotive acrylic is recommended. Brands such as Hycote or Halfords are likely to be problem free and provide a good finish to your model while being readily available.

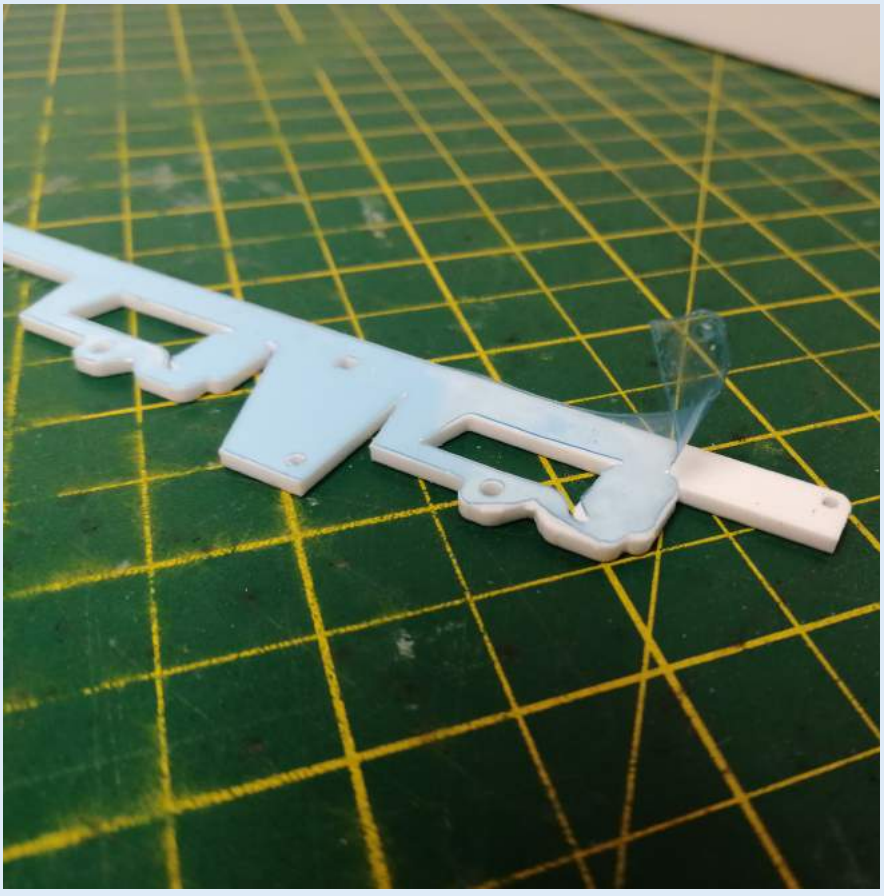
Before starting the build I highly recommend watching the following YouTube videos to gain a good understanding of the machine and how it works.

Heath MC2 Extra Instructional Video

https://www.youtube.com/watch?v=f6OISZg6pqw

Heath MC2, QM Extra and SuperChaser Extra Service Guide

https://www.youtube.com/watch?v=tls4tlnT560

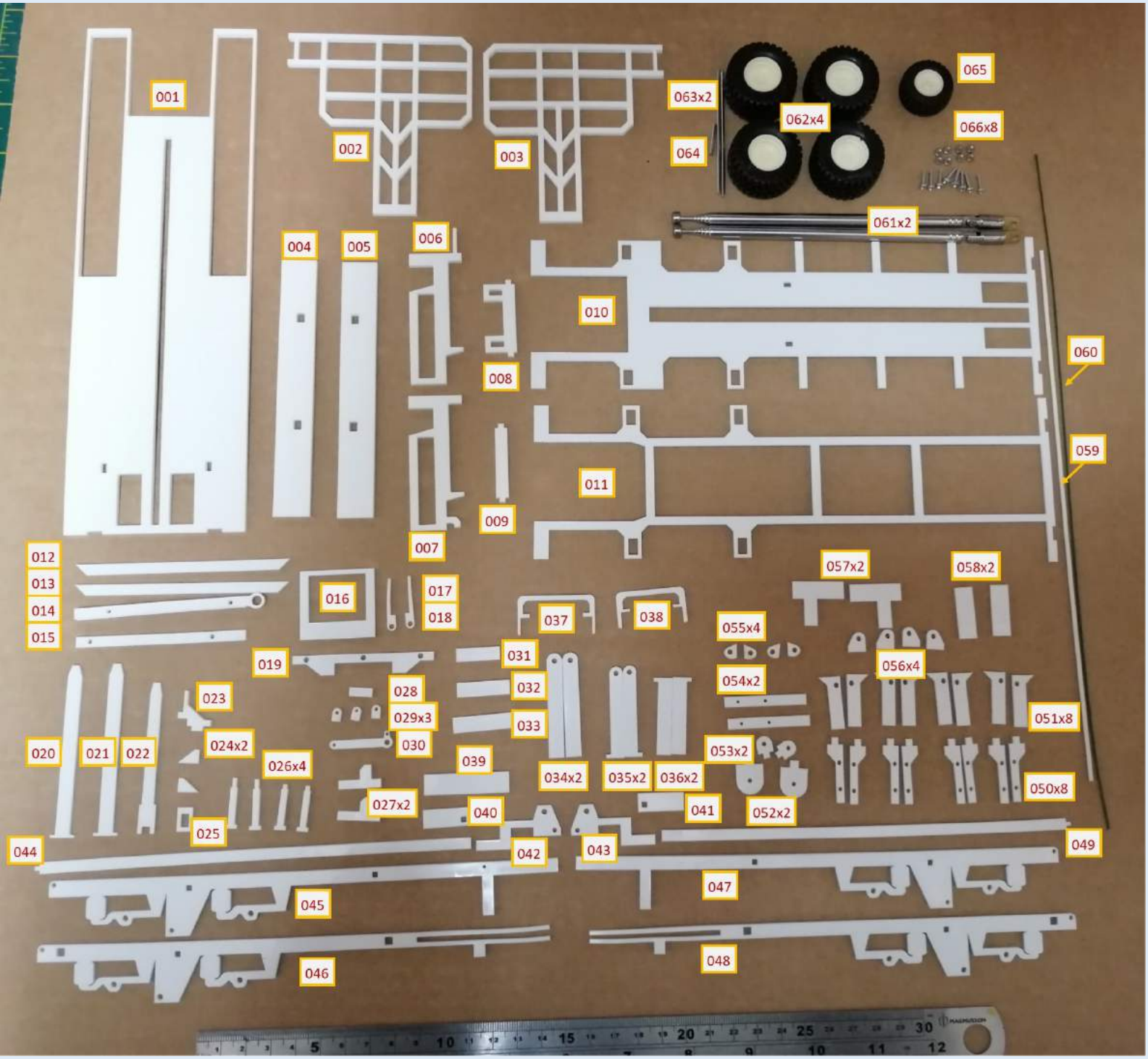


Step 1: To start with I recommend cleaning the resin parts (wheels and tyres) in a strong washing up liquid solution.

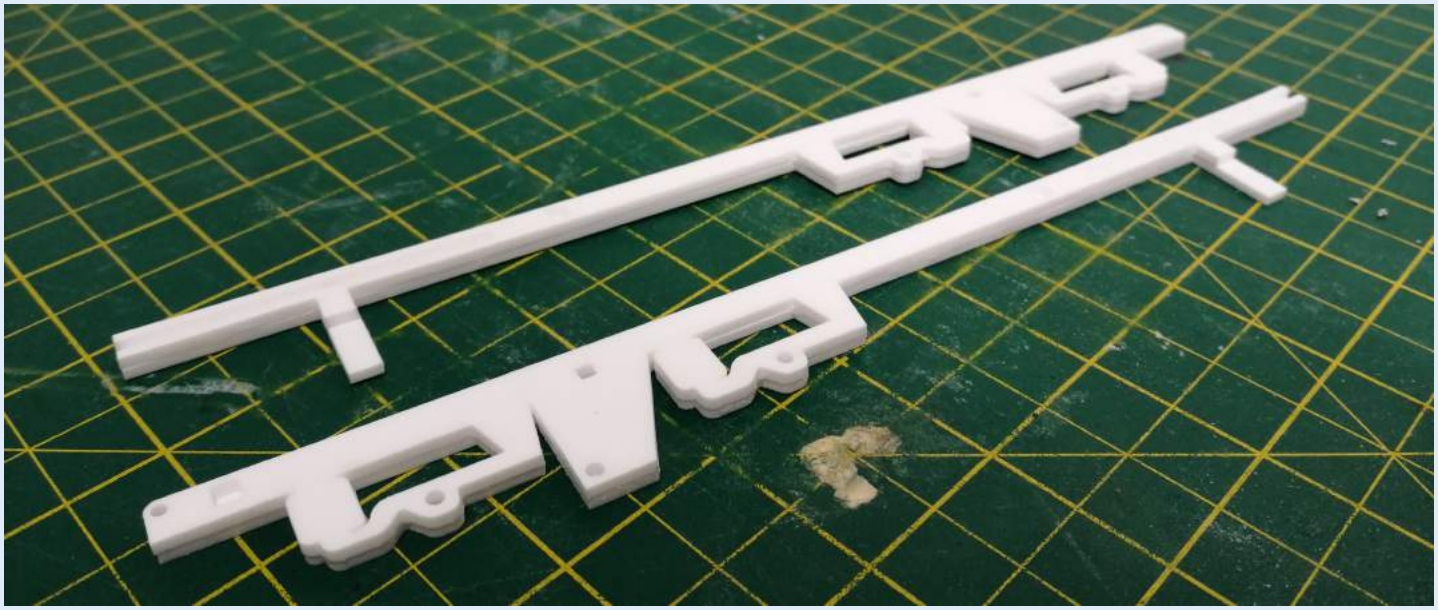
Then remove the plastic backing from all acrylic parts and sand back with a fine grit sand paper. The laser cutting process causes a slight raised edge in most parts that will inhibit strong adhesion. By sanding these edges of a stronger glued bond can be made and the surface of the plastic is improved for pain adhesion.

It is important to take care when sanding as Acrylic is a brittle material and can easily snap. If something does break simply line up the crack lines and glue back together, leave 24hrs before using the part again so the glue can set firmly.

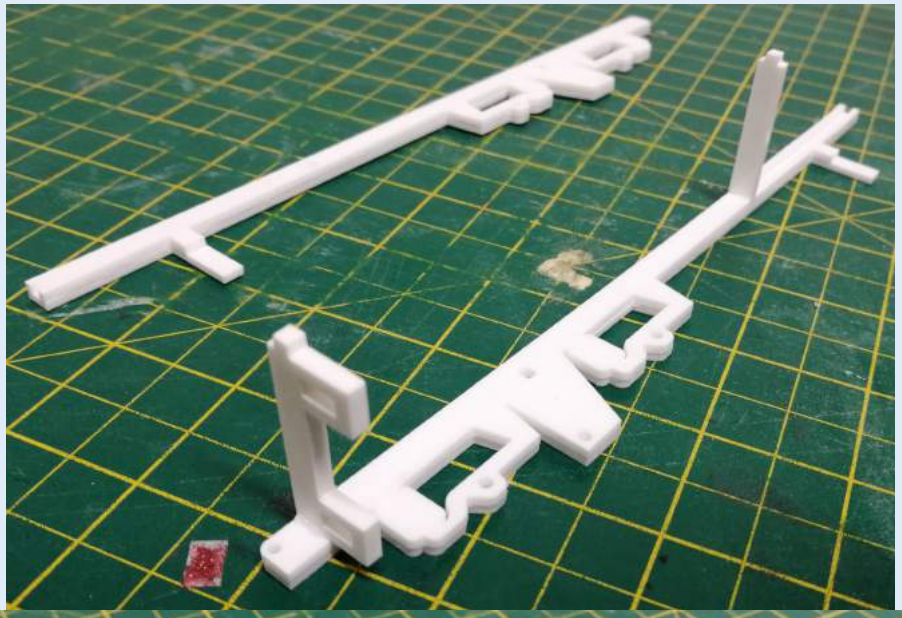
The photo below lays out the part numbers for the kit, these correlate with the descriptions for each step. Most parts are a unique shape and therefore easily identified from the photo. For the rectangular parts in the kit you may wish to resize the photo to scale (using the ruler at the bottom as reference) in order to offer parts up to the photo.

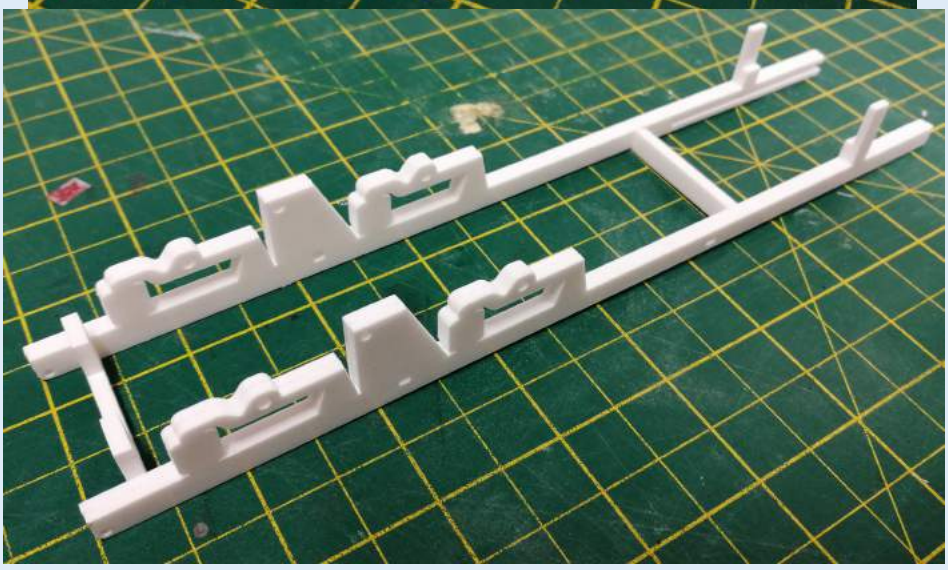


Step 2: To start with the two chassis rails are built up. Parts 45, 46, 47 and 48 make the chassis rails. Glue 45 face to face with 46. It is important they go the correct way around. The front is the longer end between the two suspension parts. 45 must be on the right when viewed from the front. Glue 47 to 48 with 47 on the left when viewed from the front.

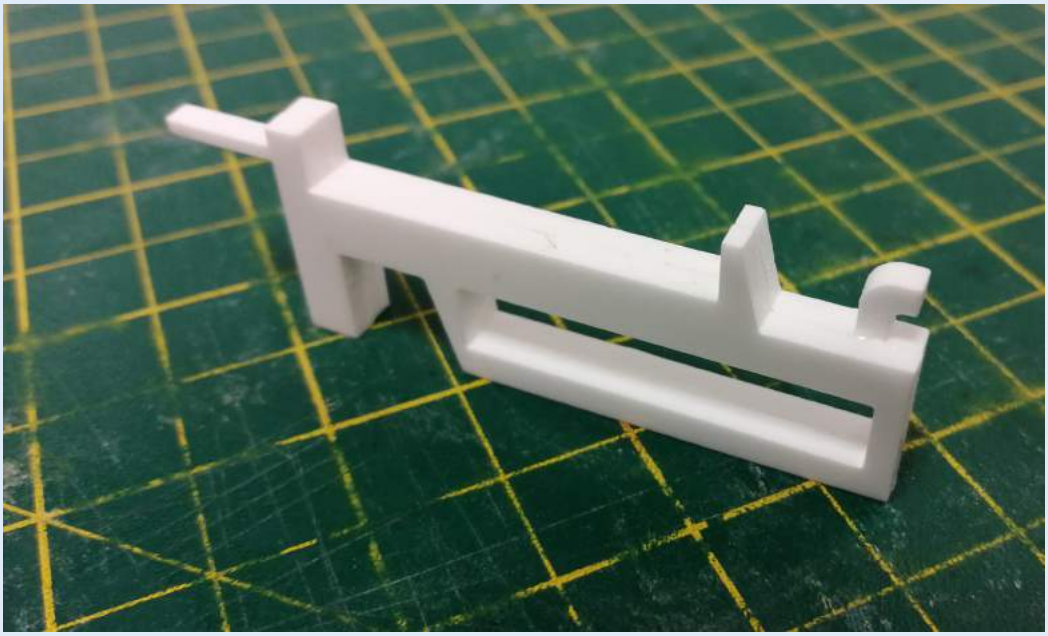


Step 3: Glue 8 and 9 into the square slots of one chassis rail as pictured. 8 at the back and 9 at the front. Then glue the other ends into the other chassis rail. Keep everything straight and true while the glue sets.

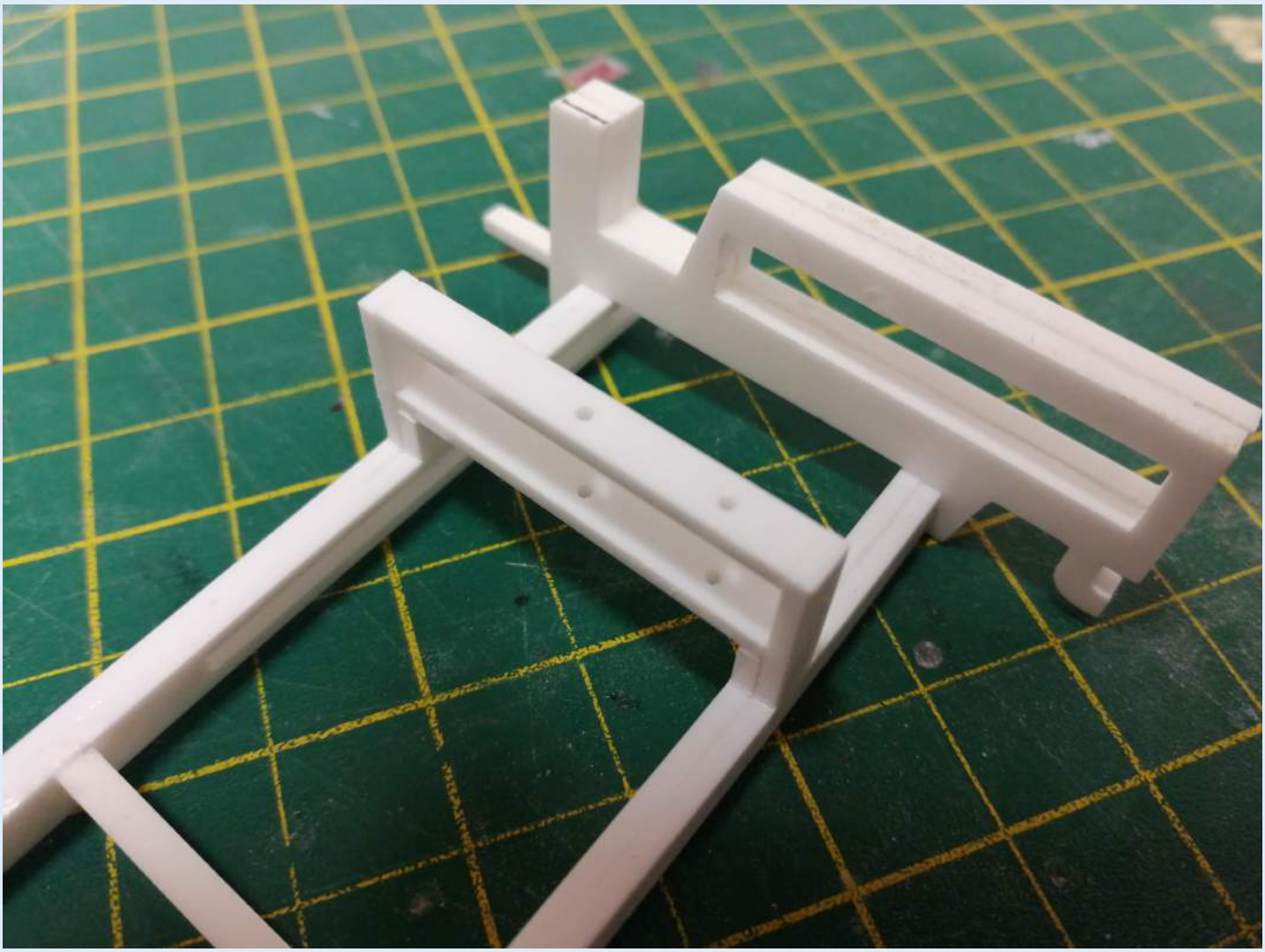




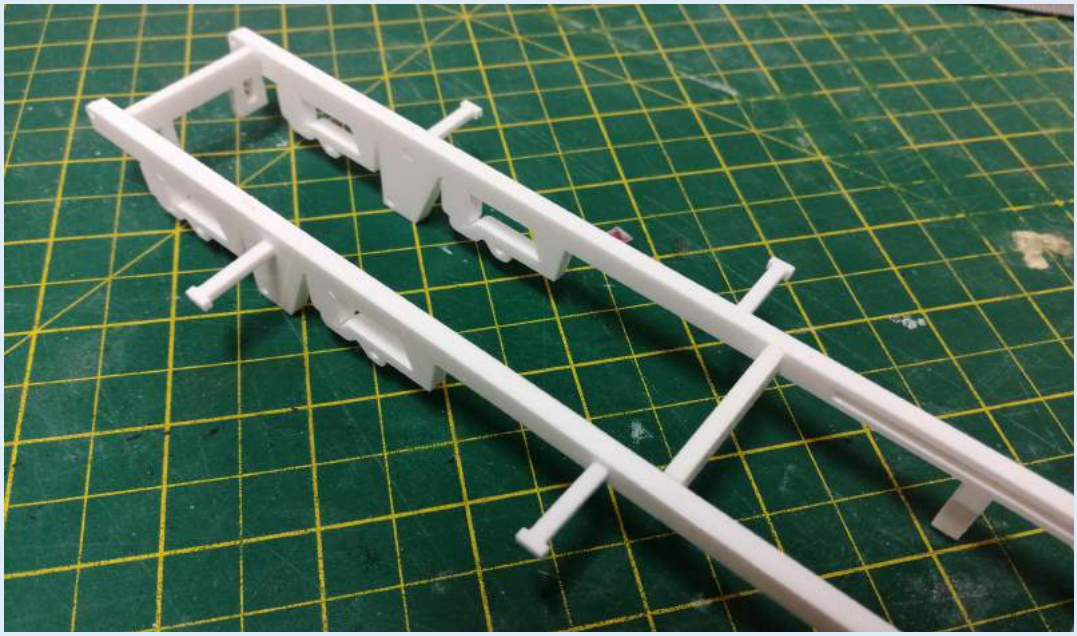
Step 4: Glue parts 6 and 7 together. 6 should be at the front and 7 behind. Viewed from the front the small stick on 6 should be on the left, and the large narrow slot spans from the centre to the right.



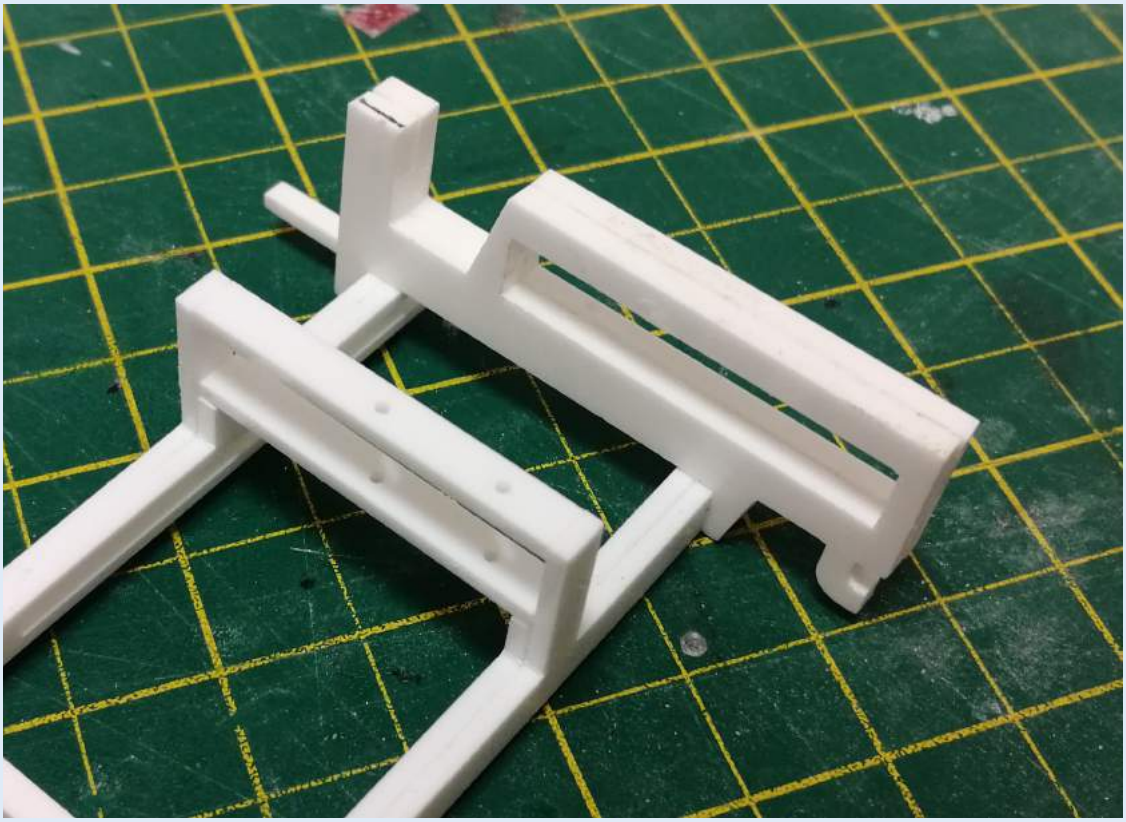
Step 5: Glue 6/7 to the front of the chassis. Ensure the slot is on the right when viewed from the front. Excuse the advanced photo, I forgot to take a photo of this step!



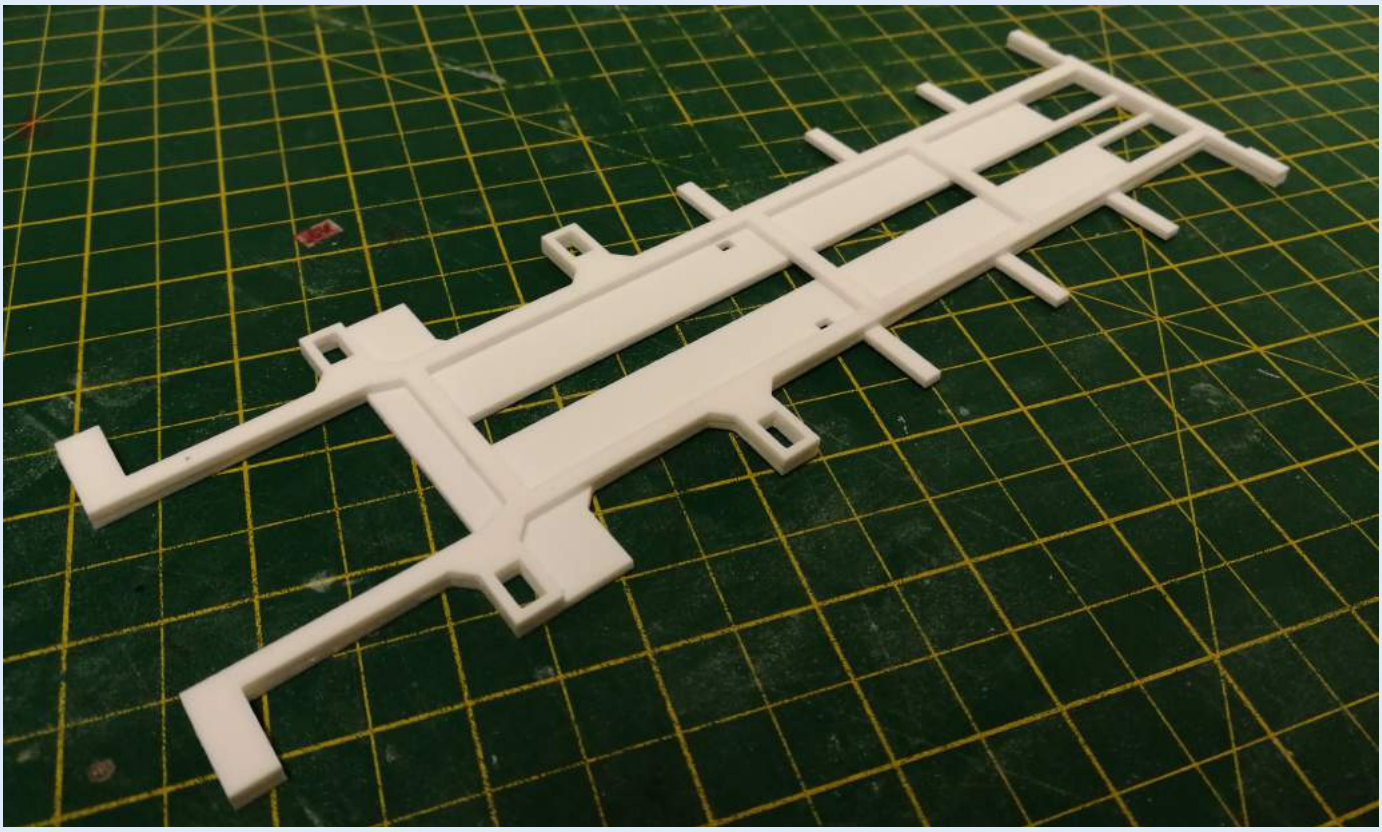
Step 6: Glue the four 26's into the small slots in the chassis. The to shorter parts fit in the front two slots and the long in the rear slots.



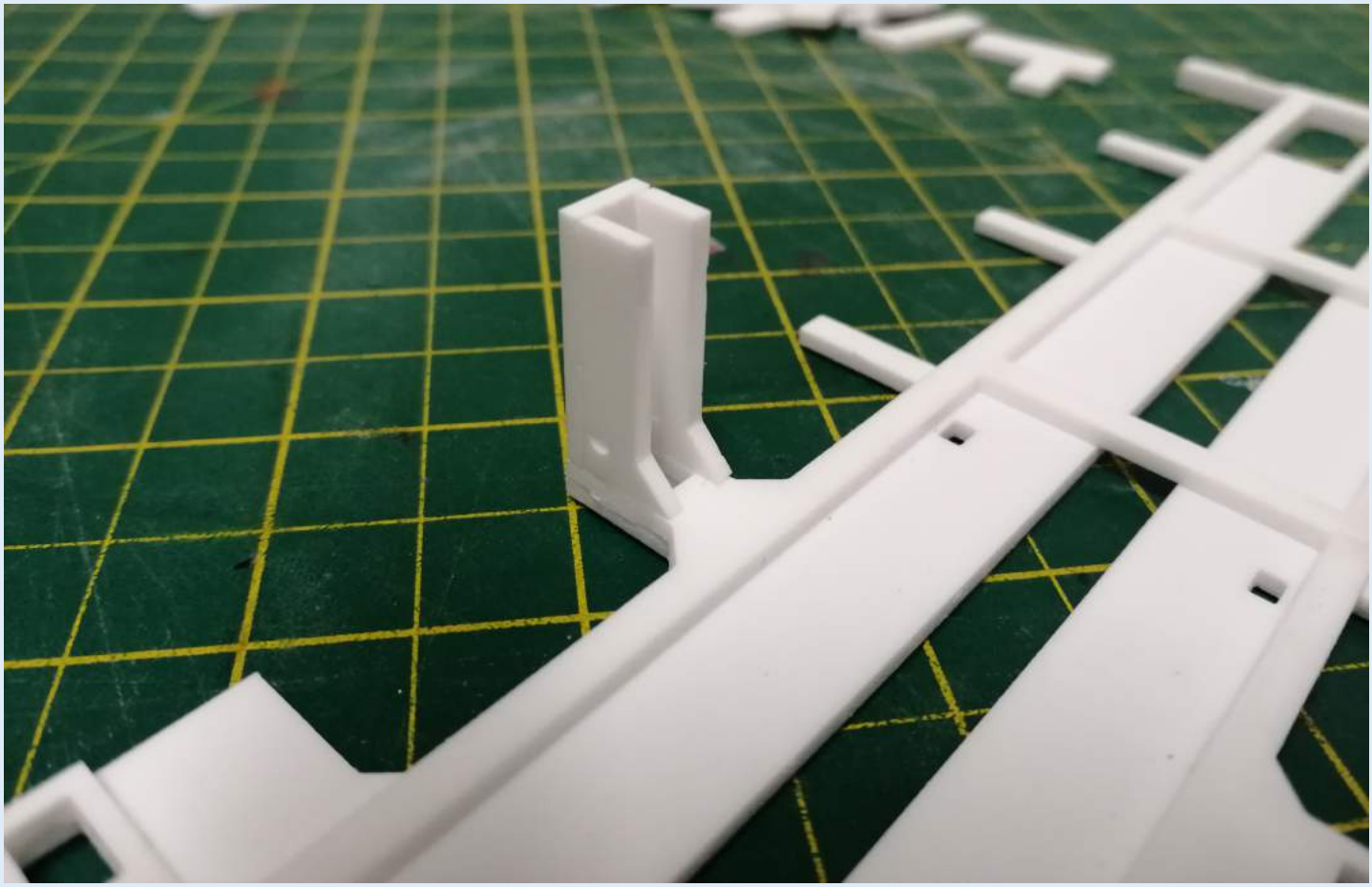
Step 7: Glue one 54 butting up to the inner chassis rails as photographed and the second 54 above the first in line with the end of the outer chassis rails.



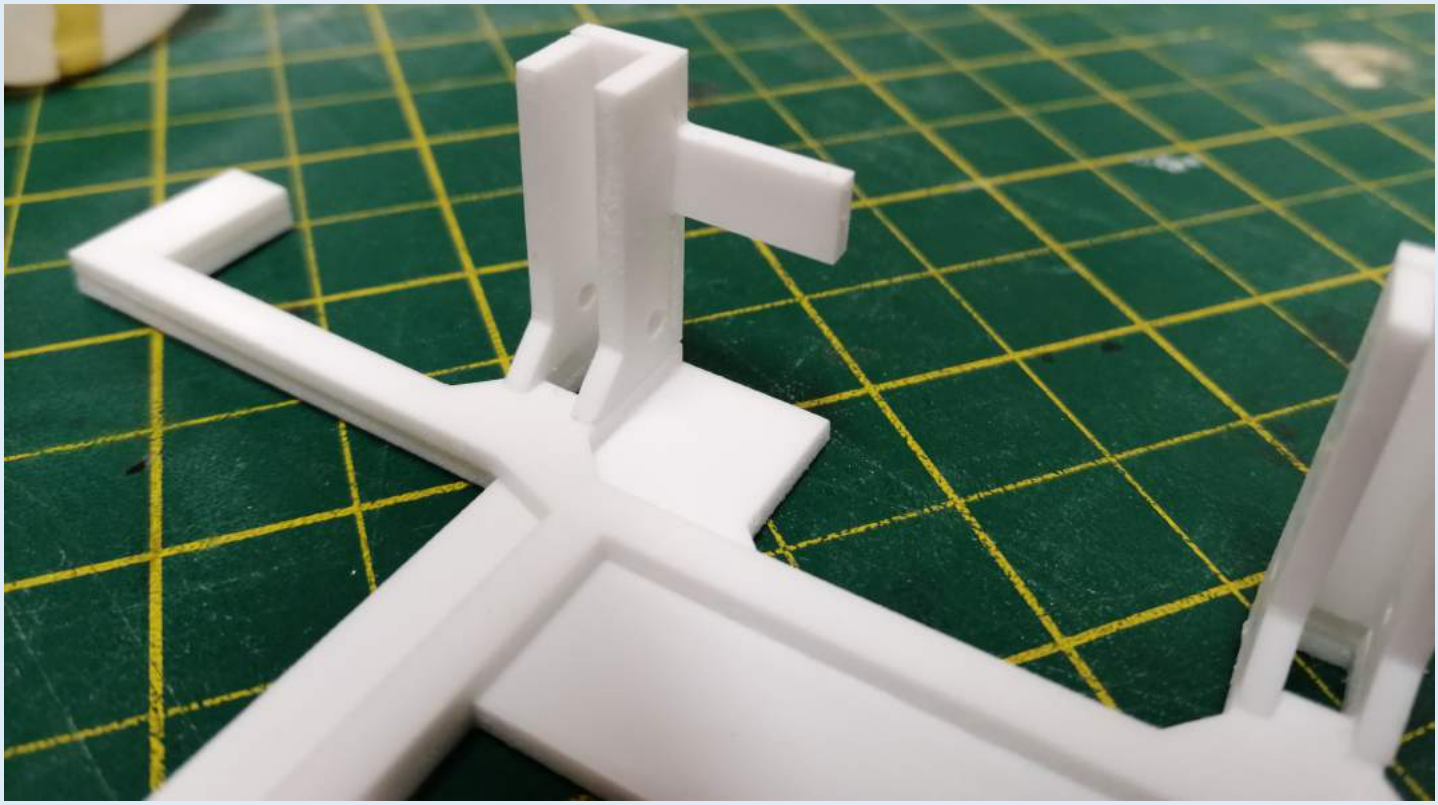
Step 8: Glue parts 10 and 11 together. Line the two up so that the rear is in line and the four squares near the front are perfectly aligned allowing parts to fit later in the build.



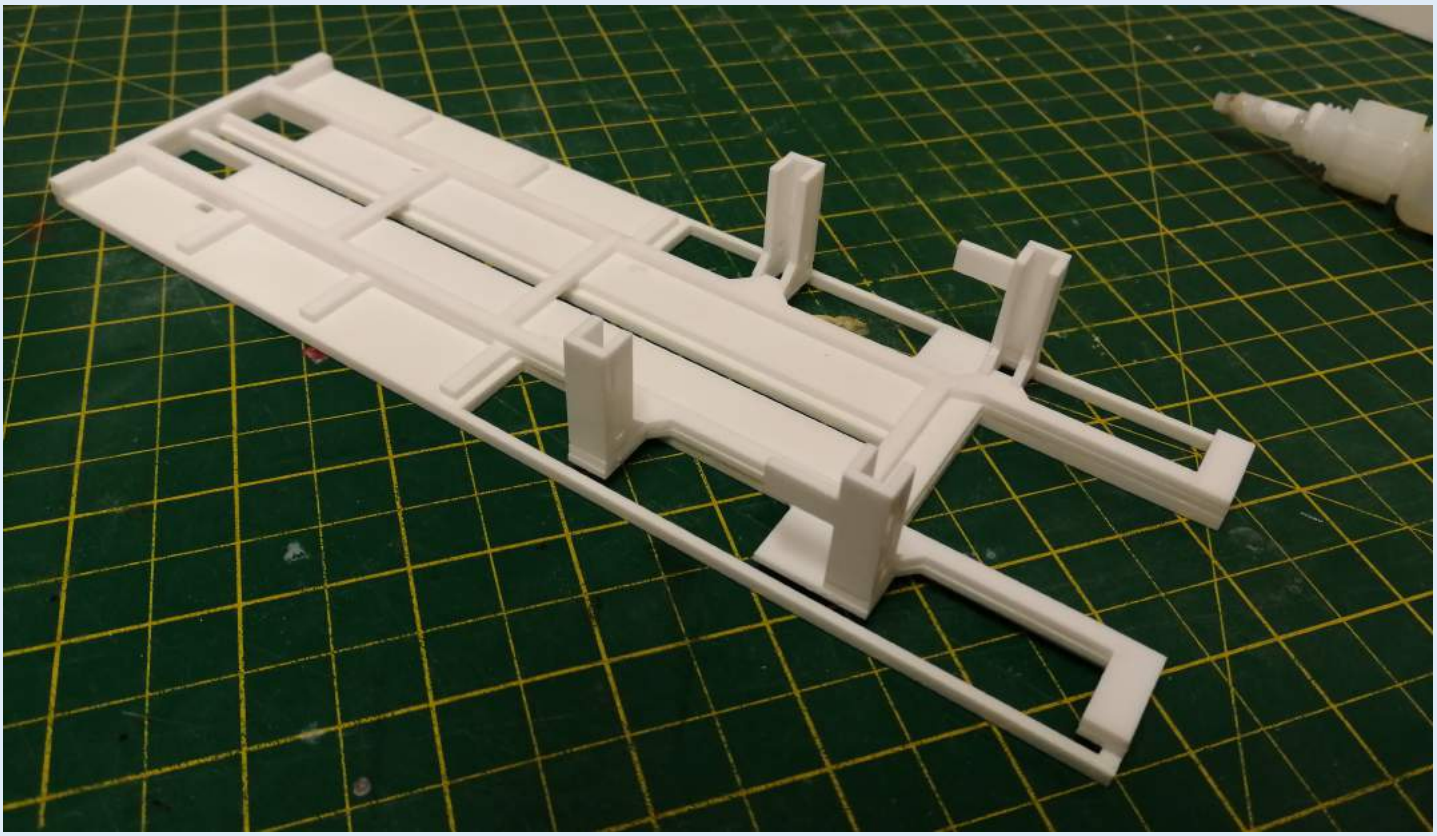
Step 9: Using on 58 and 2x 51's create a U shaped structure around the square holes mentioned above in parts 10/11. The hole should be closest to the joint and 58 should be on the outside. Ensure the space inside remains clear for future parts to slide in.



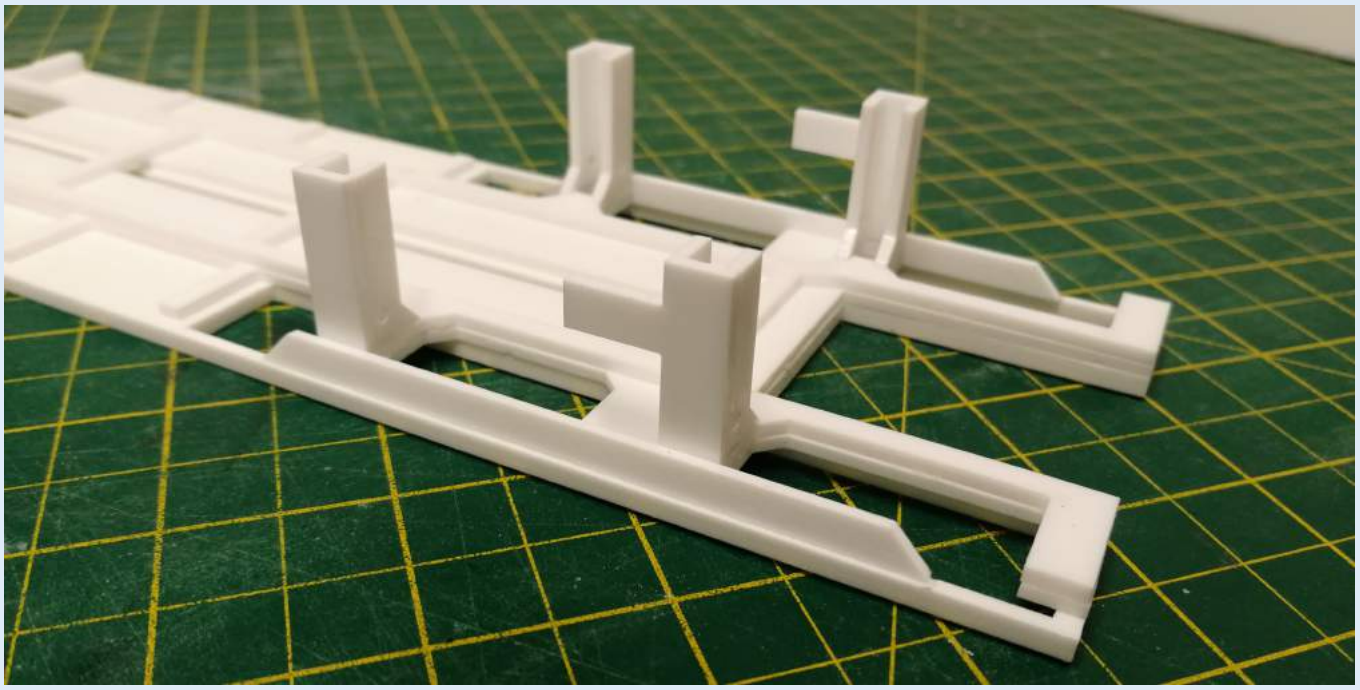
Step 10: Repeat this process on the square with a larger area around it on 10/11. Use 57 and 2x 51. The stub on 57 should sit furthest from the joint and point to the rear on both sides.



Step 11: Glue 10/11 to part 01 taking care to line up the rear profiles and the internal corners of the front area.

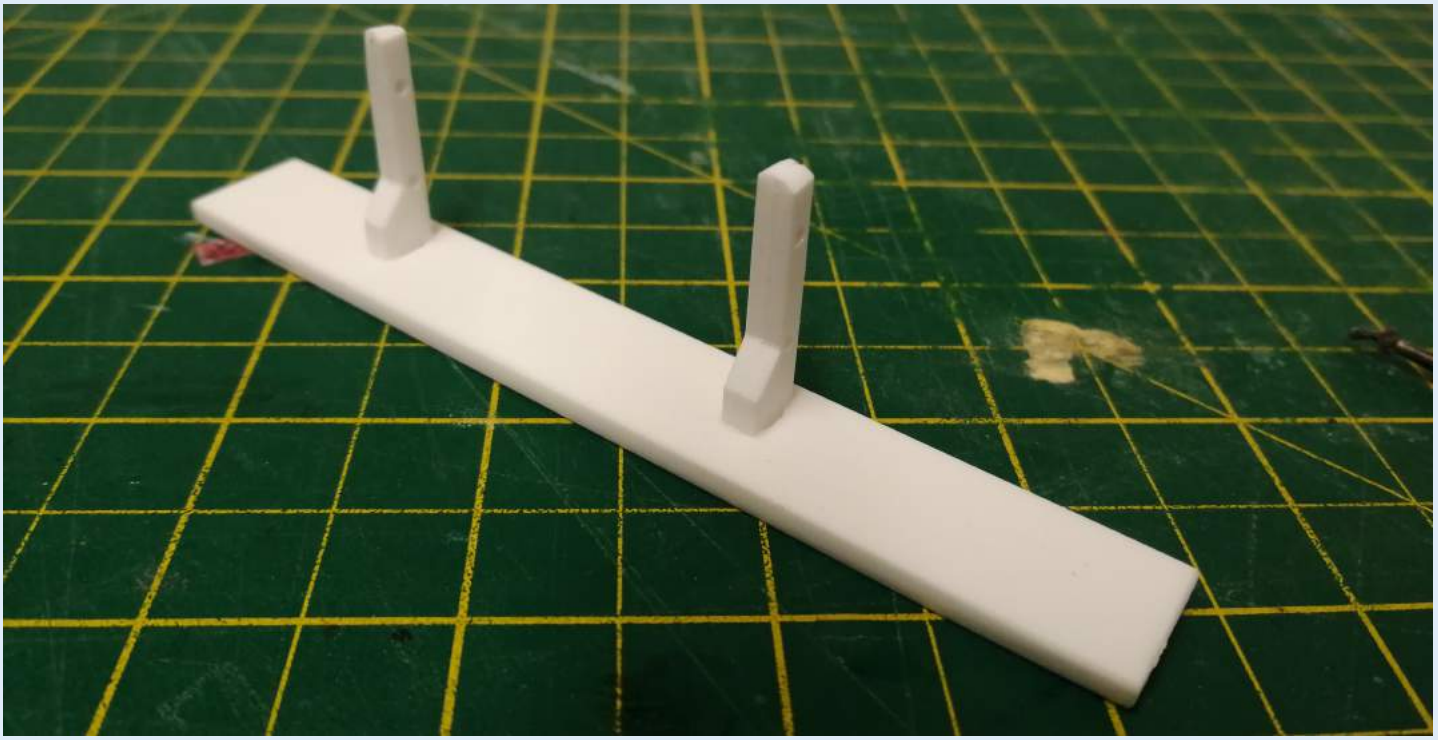


Step 12: Glue strips 12 and 13 to the bed. Mark a point 15mm back from the front. The tapered tip of the strip should be glued to this point. The edge of the strips should glue to 01 and the backs should glue to 57 and 58.

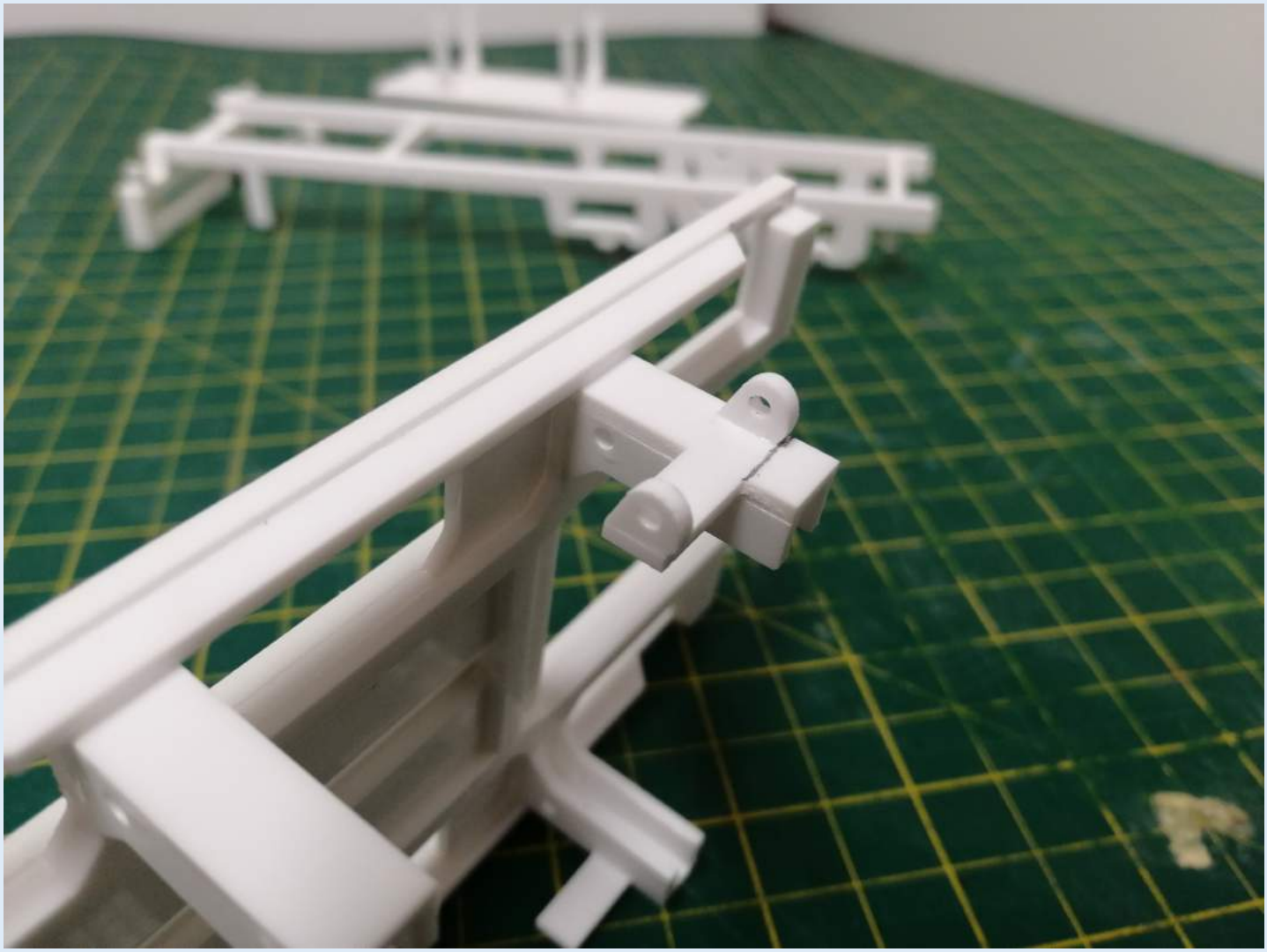


Step 13: Step 13 was unlucky, a modification to the design means its no longer required rather than part 50 being 8 pieces of 2mm acrylic it has been replaced with 4 pieces of 3mm acrylic. Instead enjoy this blank space, maybe have a brew and a biscuit?

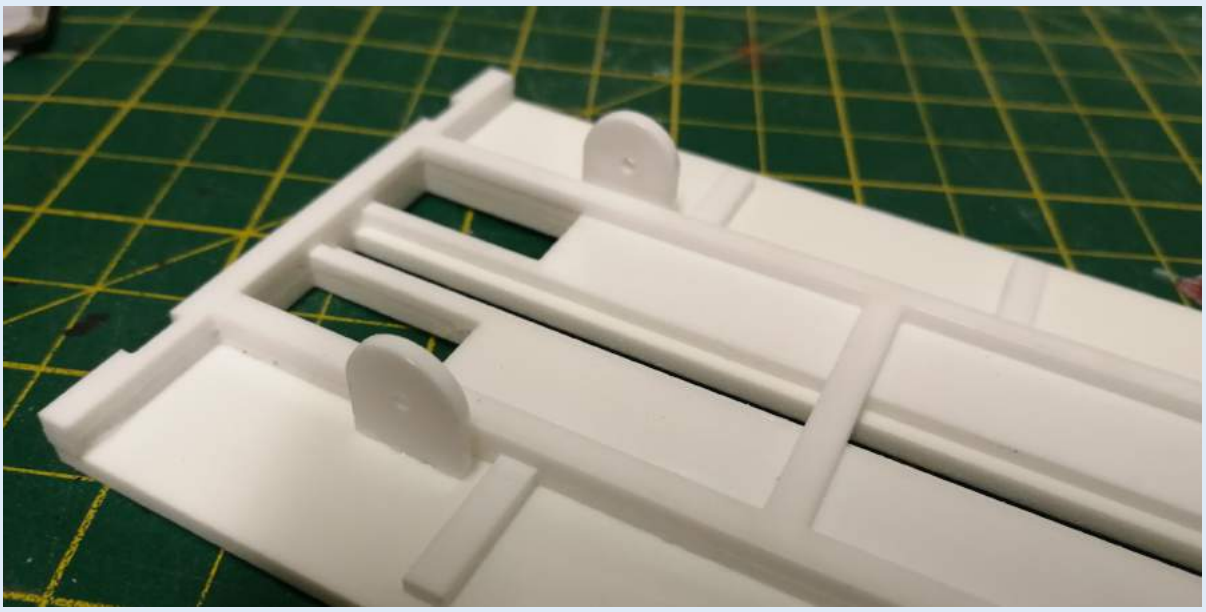
Step 14: Glue parts 50 into parts 04 and 05. Ensure they are straight and true before the glue sets.



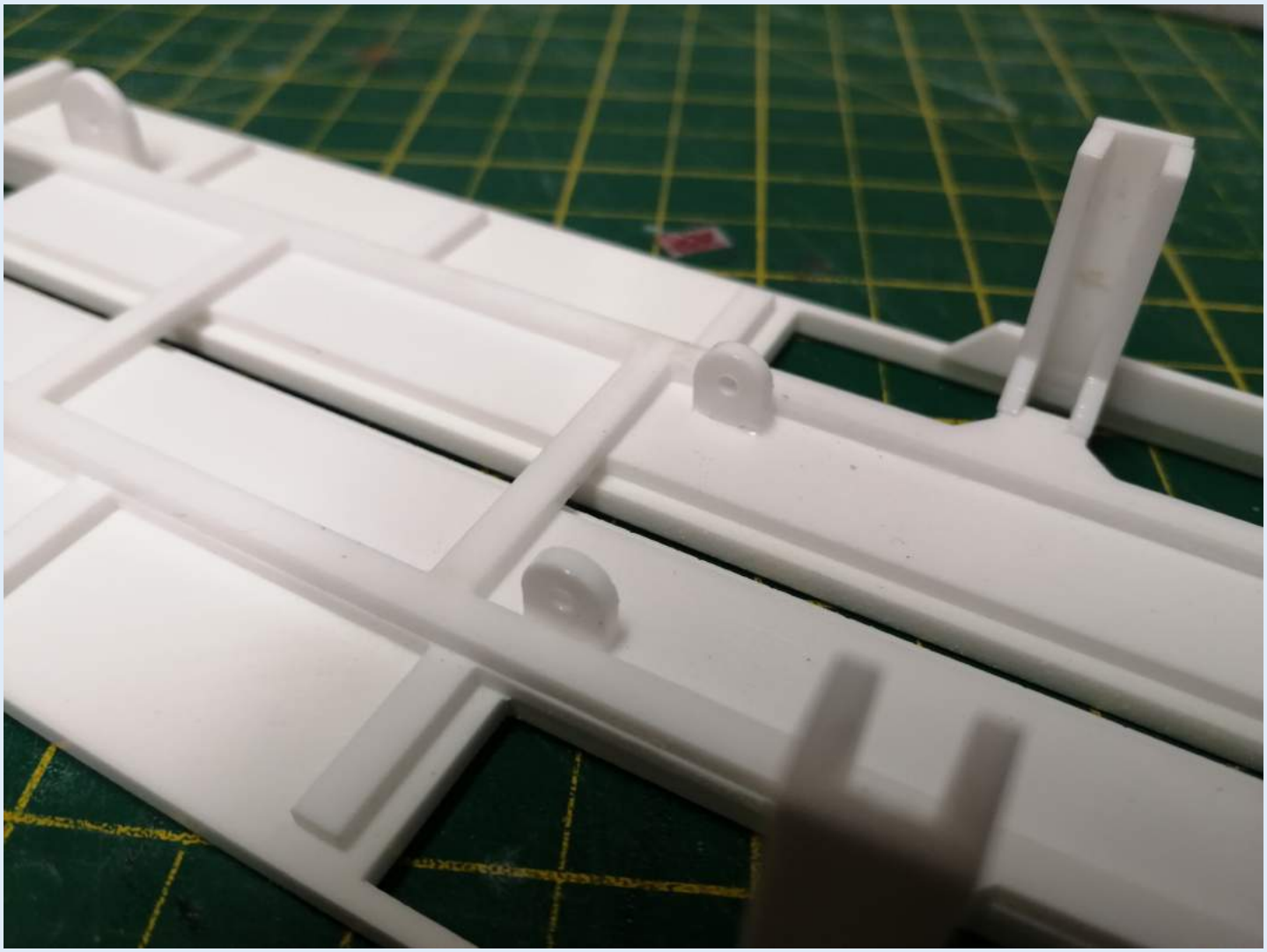
Step 15: On both 57's draw a line across from the bottom of the stub. Glue a 55 to either end as photographed with the narrow tip of 55 at the top. Repeat for both sides of the bed.



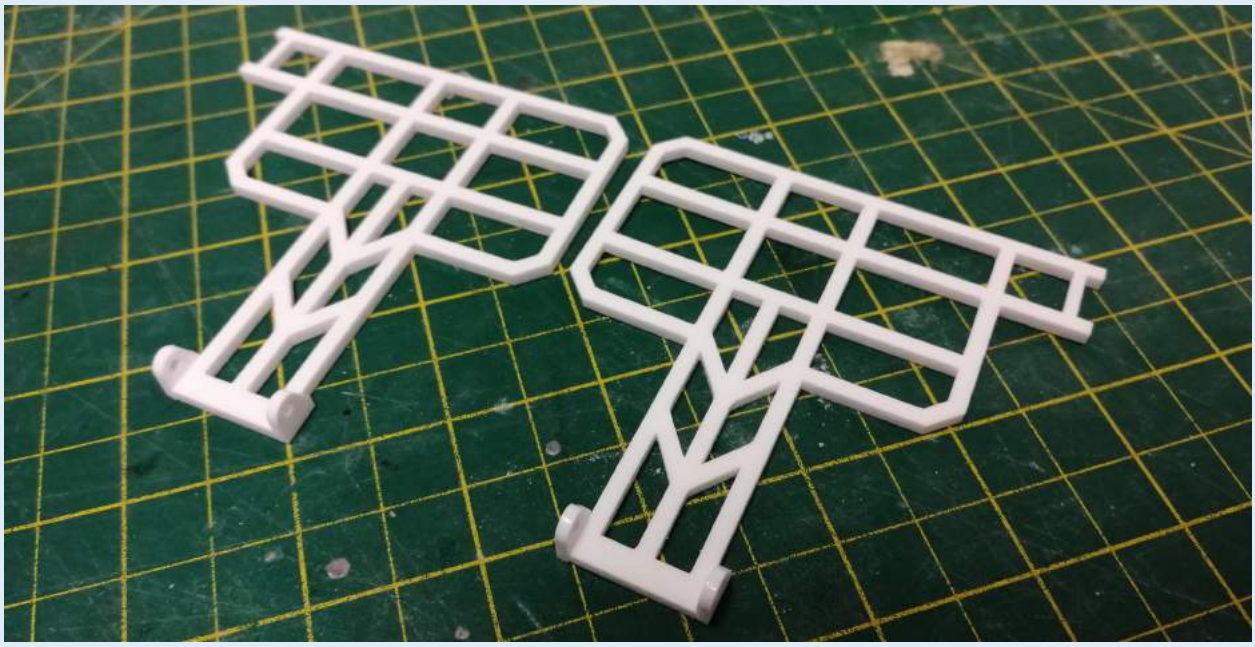
Step 16: Glue 52 into the two slots at the rear of the bed. They should point out from the bottom of the bed.



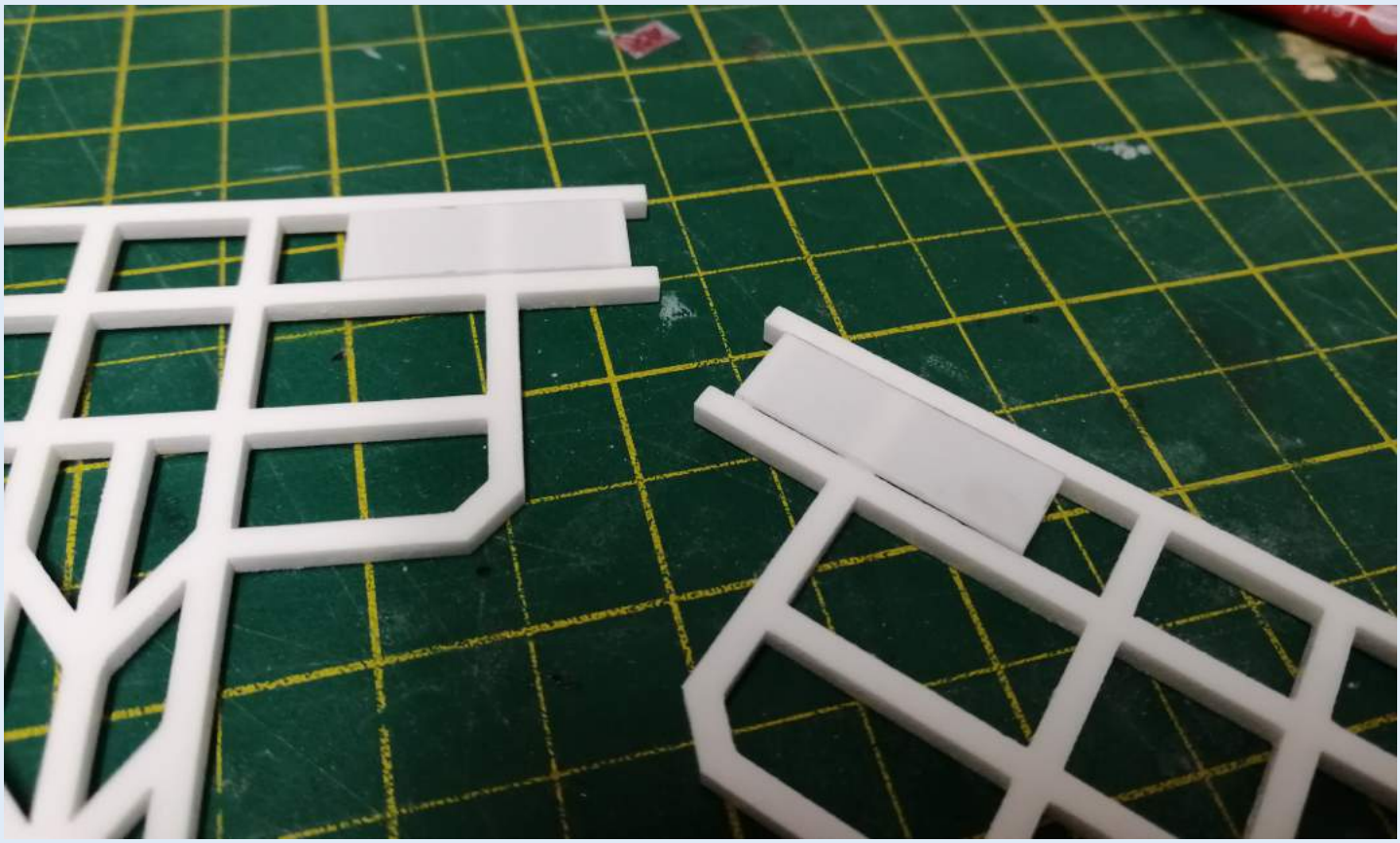
Step 17: Glue 53 into each of the slots in the middle of the bed.



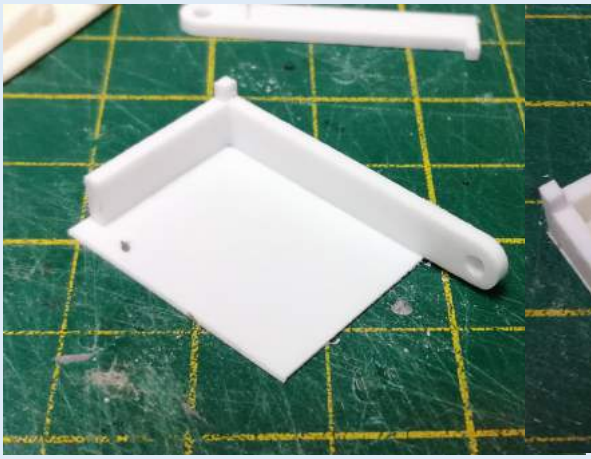
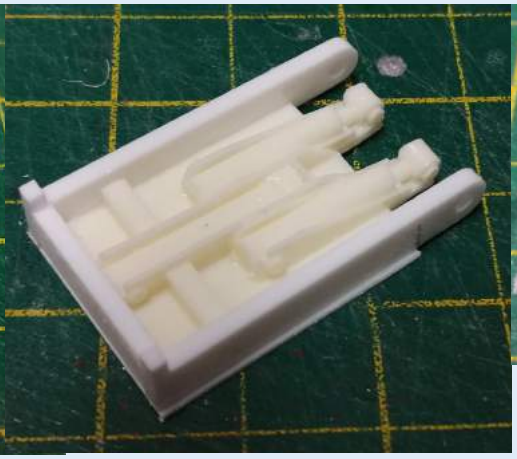
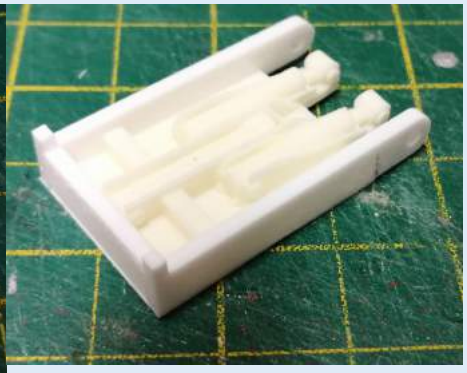
Step 18: Glue a part 56 to either side of the bottom of parts 02 and 03. Ensure that the parts are glued the opposite way round on each part so that when mounted the extruding parts are both pointing forwards.



Step 19: Glue thin strips of plasticard (30mmx10mm) to the extruded parts of 02 and 03. Mount to the same side that has parts 56 pointing up from.

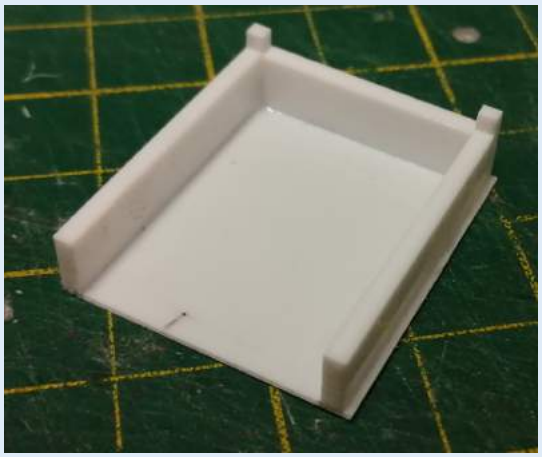
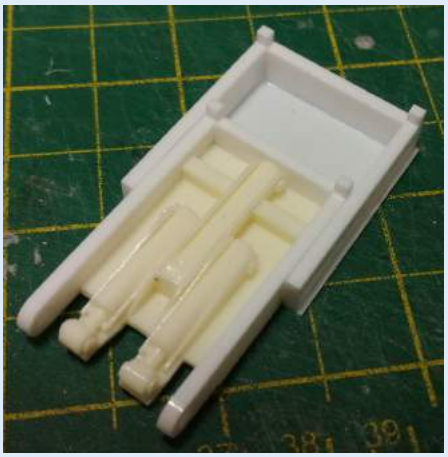


Step 20: For the telescopic arm begin with the small internal section. Start with 0.5mm plasticard sheet A and glue one part 36 to the long edge with the rounded end protruding beyond the sheet. Then glue part 31 perpendicular to the raised end of 36. Now glue the resin part with cylinder and hinge details. Finally glue the second part 31 to the other side. Ensure parts are square and true. Remove any flash from the resin part. Trim the sheet flush with the edges of the acrylic parts so it can slide into the next section. You may wish to round the edges by sanding.

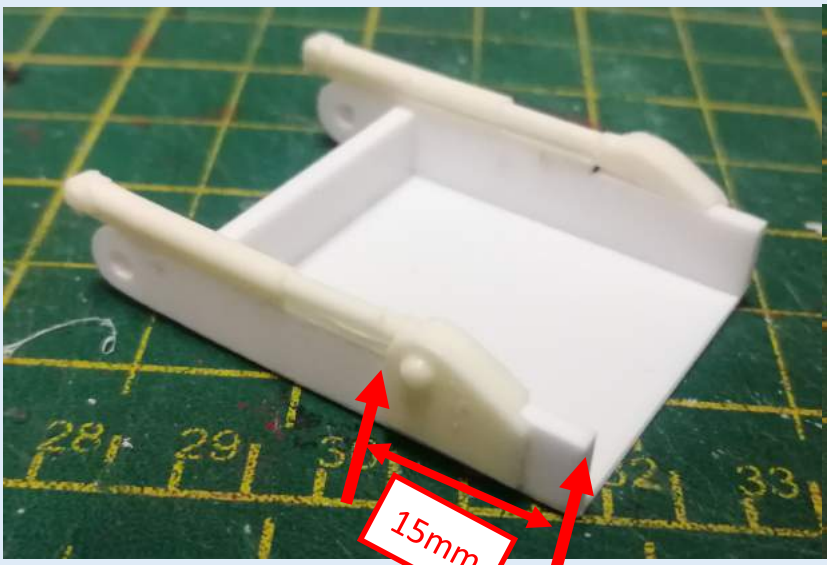




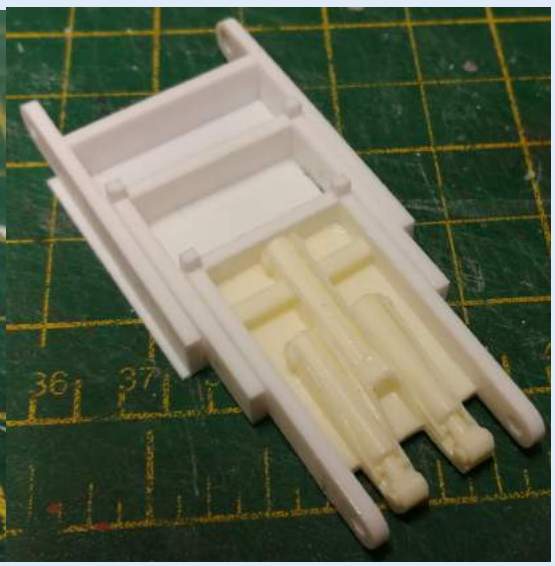
Plasticard trimmed to edges

Step 21: Use the mid sized plasticard square B and parts 32 and 2x 35 to make the photographed structure. Again ensure everything is square and check that the small section made in step 20 slides inside.

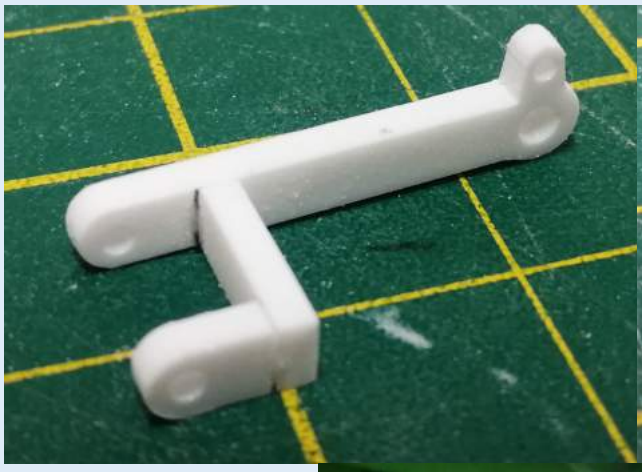
Step 22: Use the large plasticard square C and parts 33 and 2x 34 to make the photographed structure. Again ensure everything is square and check that the structures from step 20 and 21 slide in. Glue the two individual resin cylinders to the sides. The ends of the cylinders should be 15mm from the edge of the section. The resin hinges glue to the front of the cylinders. DO NOT glue the two guards in place yet as these lock the three parts together.



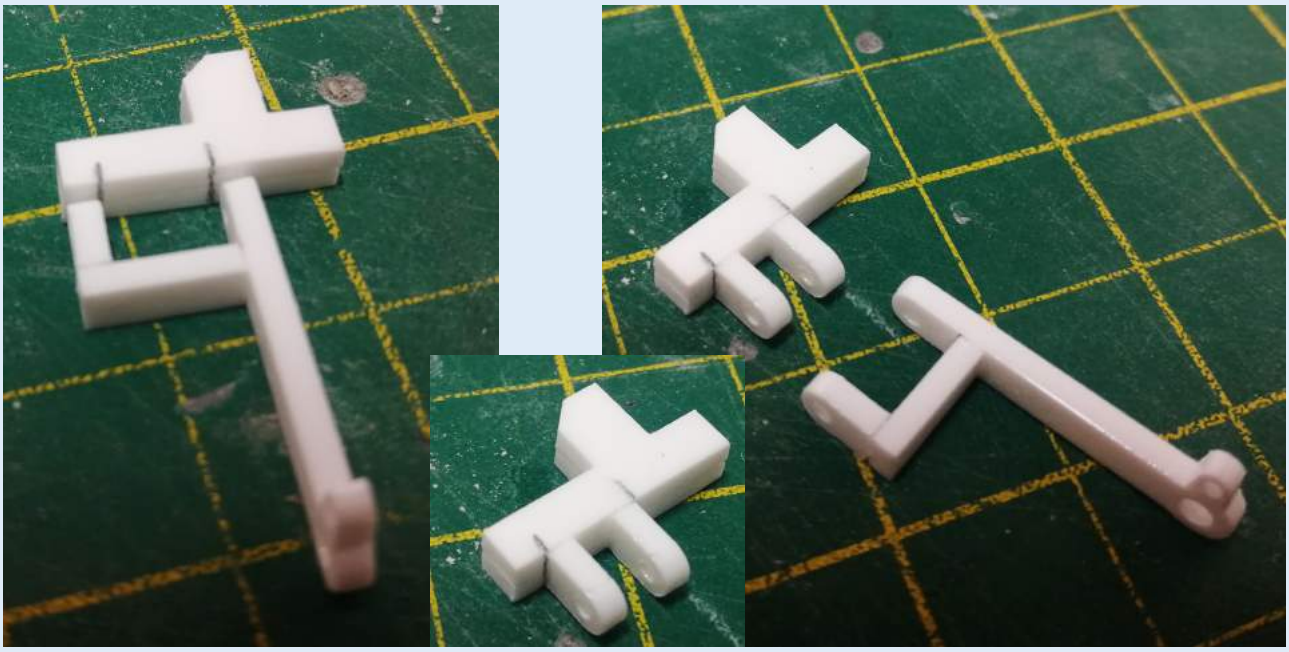


Step 23: Using parts 22, 23 and 2x 24 build up the bale support slider. 23 glues onto 22 and 24 glues either side of 23 as shown. Do not fit 25 at this point. It is to be fitted after painting.

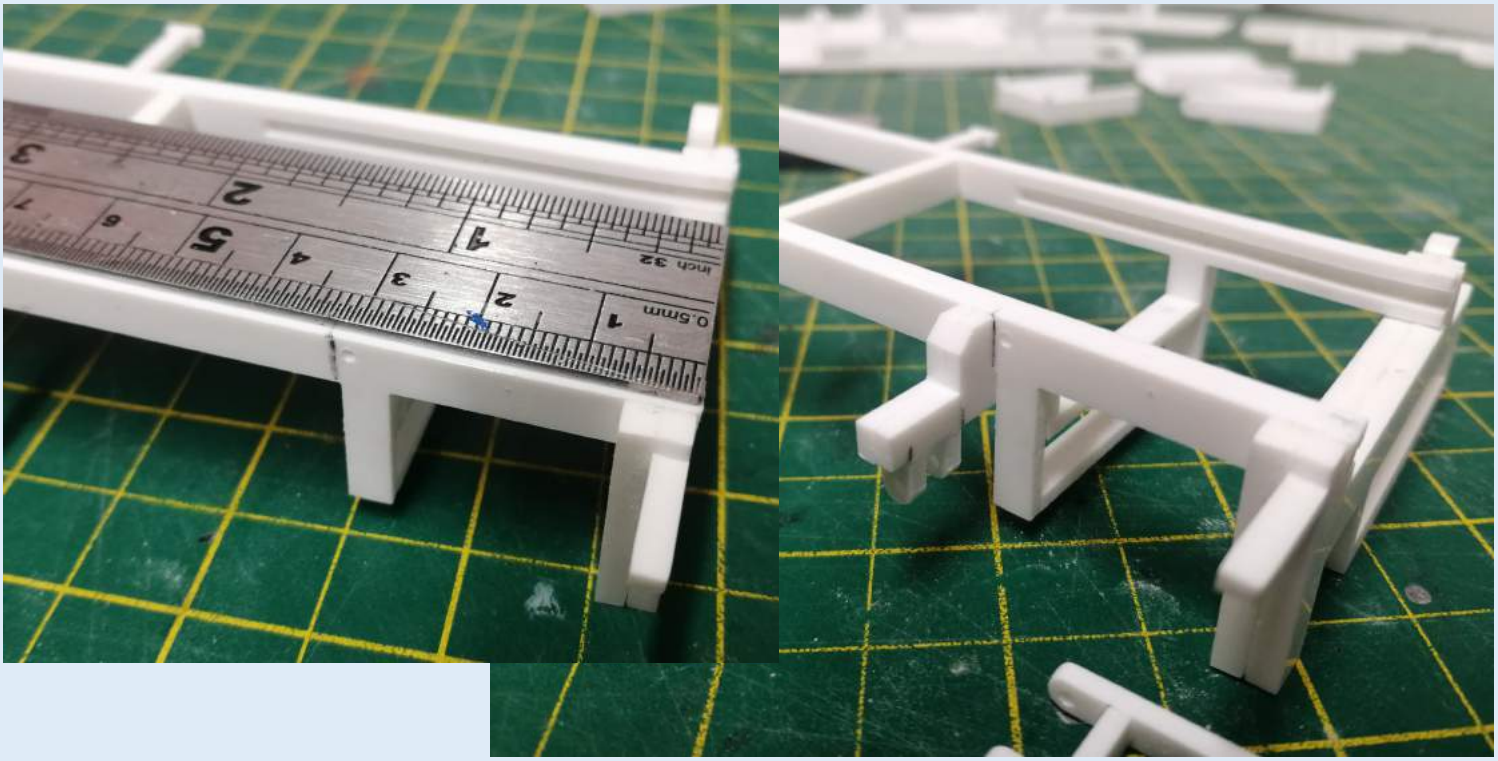

Step 24: Build up the balance wheel arm using 28, 1x 29 and 30. Line up 30 and 29 with the two small holes and mark the top of 29 on 30. Glue 28 to 30 perpendicular at the mark. Glue 29 to the other end of 28. Glue two of the 5mm x 2mm washers to the outer of the arm as pictured when painted (this was a last minute addition) to give the balance when axle enough space to be held straight



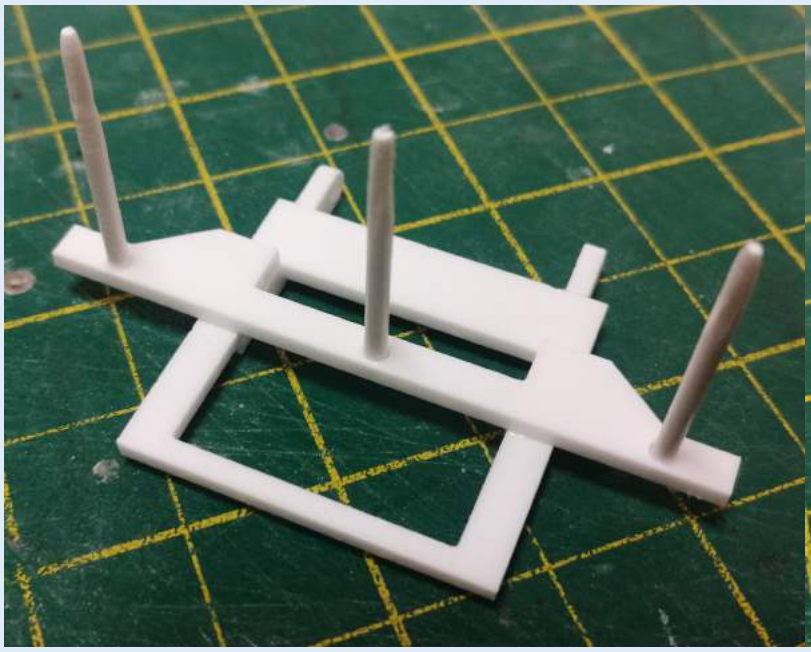
Step 25: The balance wheel mounting bracket is constructed of 2x 27 and 2x 29. Glue the two 27's together. Line up the edge of 27 with the balance arm and mark the two brackets. Glue the 2x 29's to these marks.

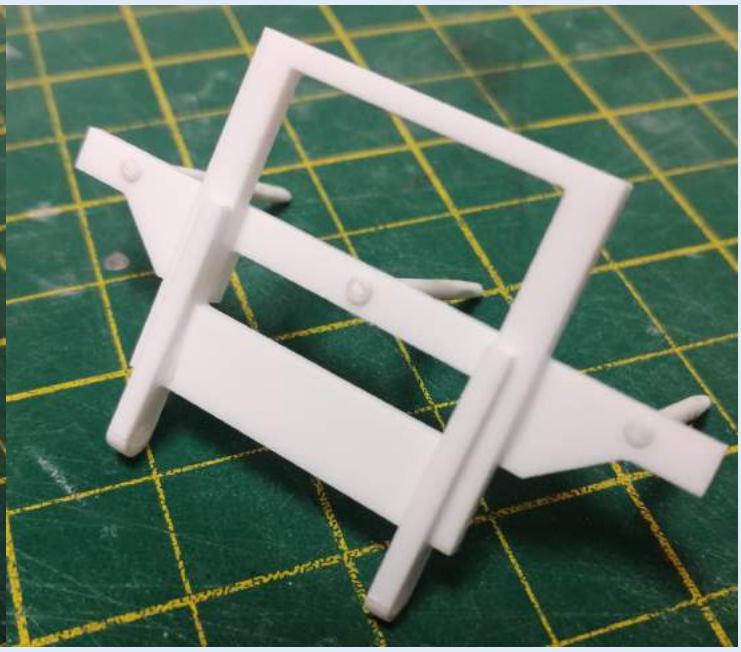


Step 26: Glue the bracket to the chassis. The bracket sits 33mm back from the front. There should be enough room to clear the small hole while not clashing with the bed when down.

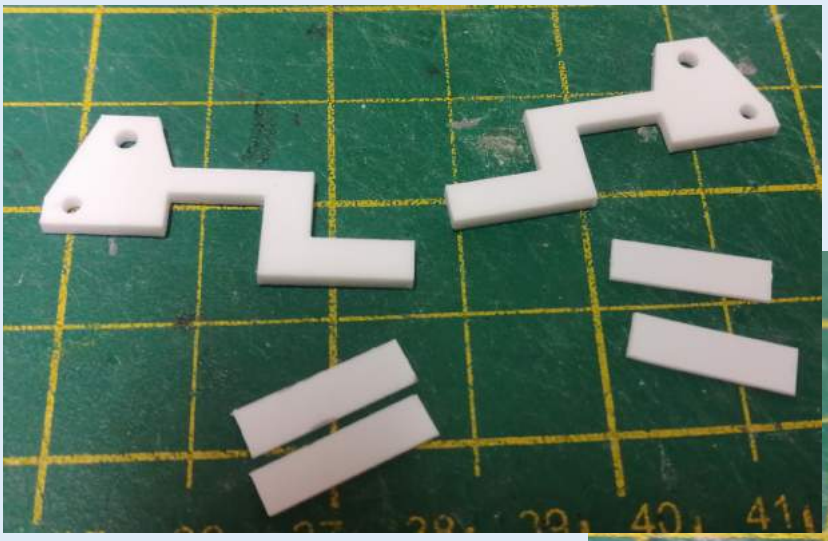


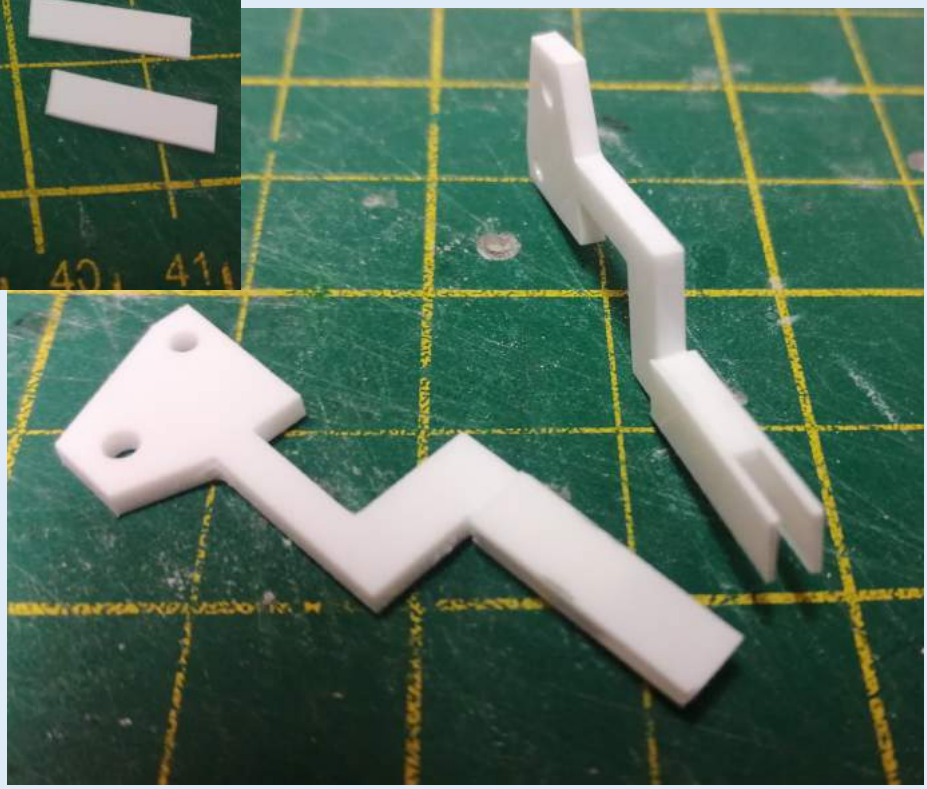
Step 27: The bale arm head is constructed as photographed using 16, 17, 18, 19 and the three 2mm rods. Sand the rods to a point and glue into 19. Glue 19 to one side of 16, the angles point to the thicker section and glue in line with the bottom of the cut out. 17 and 18 glue to the other side also to the thicker section and in line with the edges of the cut out.



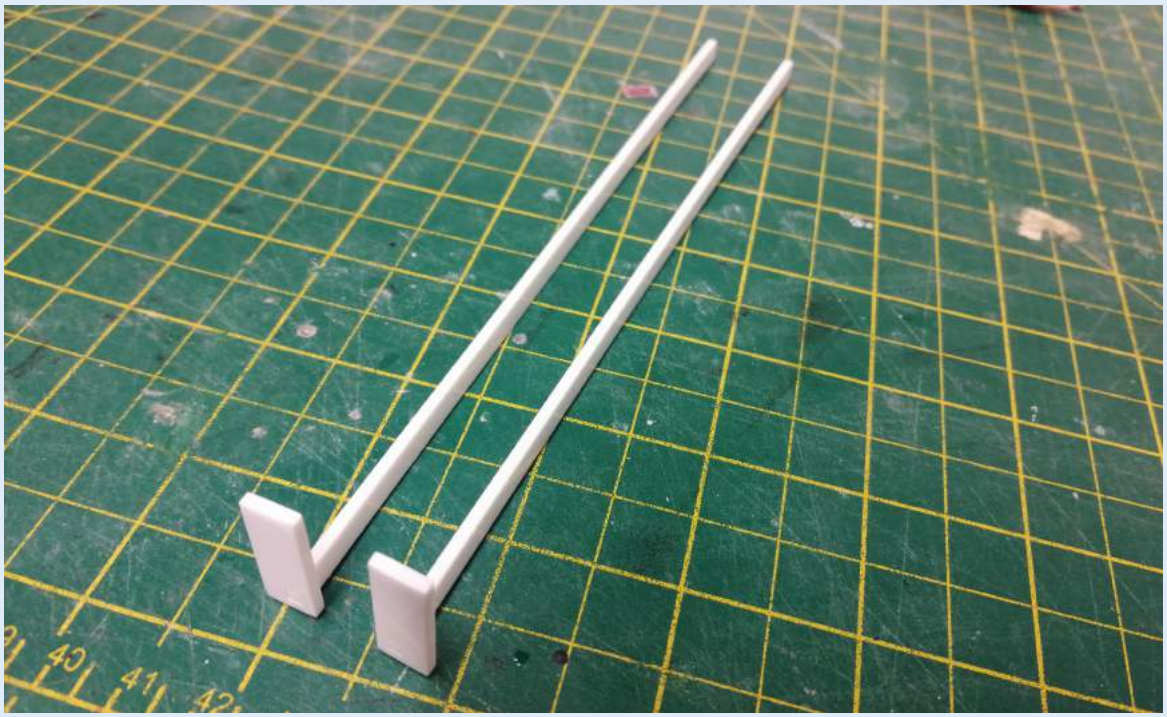


Step 28: Take two of the small thin strips of plasticard and 42 and glue a piece either side of its tail as photographed. Repeat for part 43.

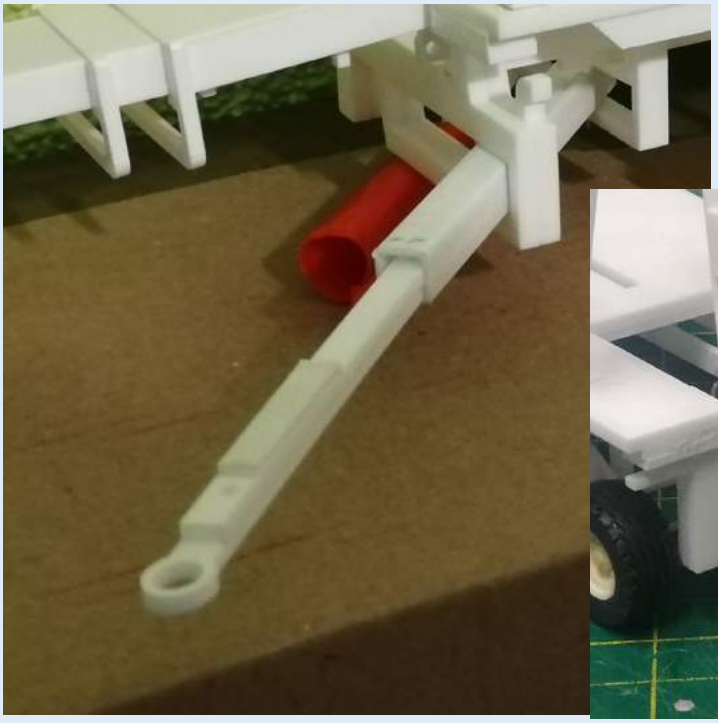




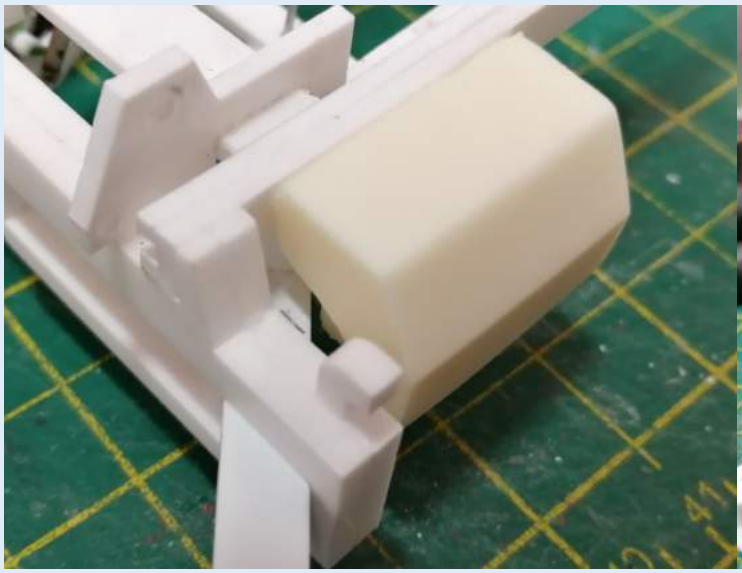
Step 29: The other end of the bale pusher arm can be constructed. Insert 44 into the cut out on 40. Do the same for 49 into 41 but make sure the wide edge is on the other side.

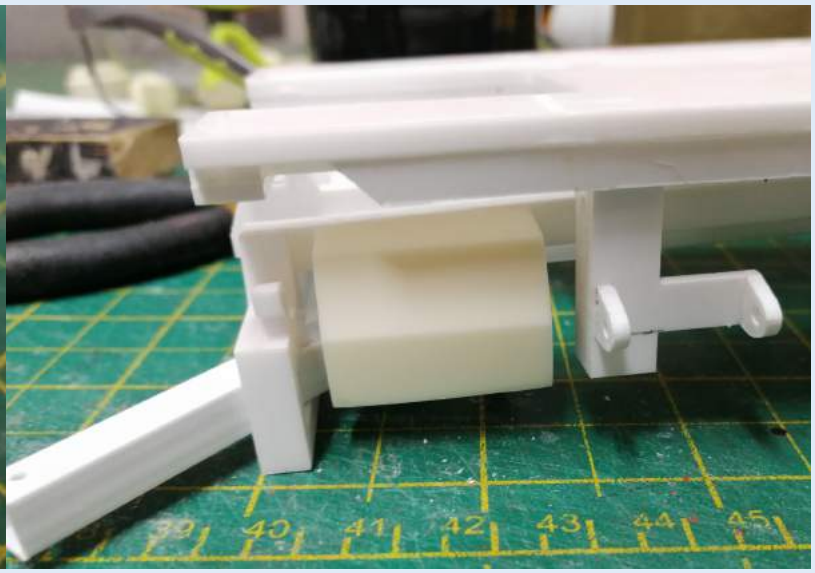


Step 30: There are two options for the extending drawbar. Both use the 6.4mm square plastic tube as the outer drawbar. There is then the option to use 14 and 15 glued together, or the resin drawbar as the inner part. Personally I'd use the resin one unless you need a large towing eye. For best painting don't assemble the drawbar yet. If using the resin piece check there is enough clearance inside the tube for paint to be added, if there isn't sand the inner drawbar until it is the right size.

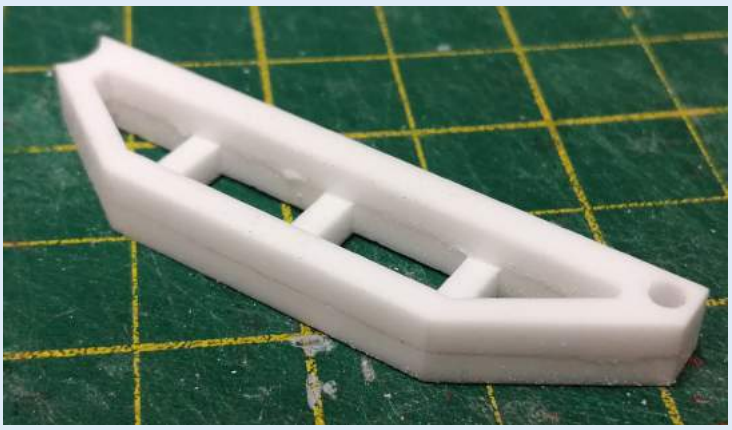


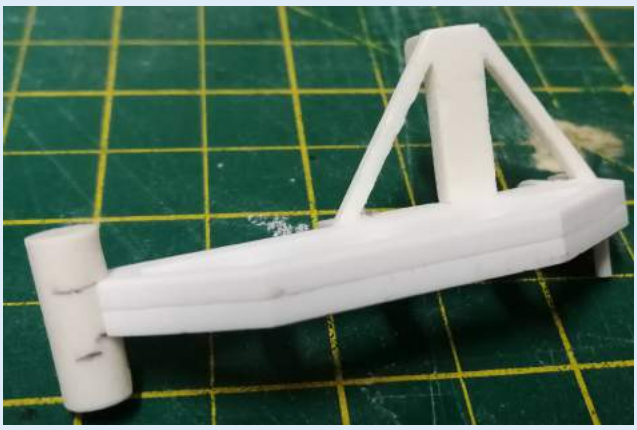
Step 31: Glue the resin solenoid box in place on the front left hand side of the chassis. It should sit 3mm behind the front of the chassis. Check there is clearance for the drawbar and the bed jack legs.



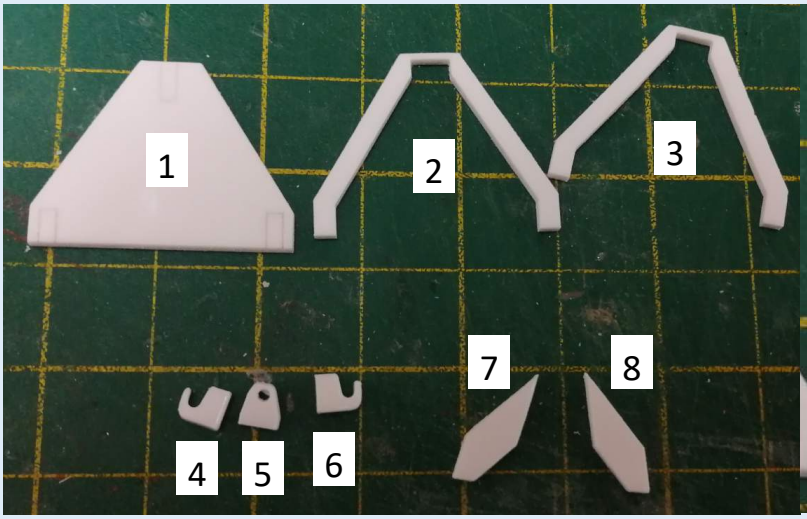


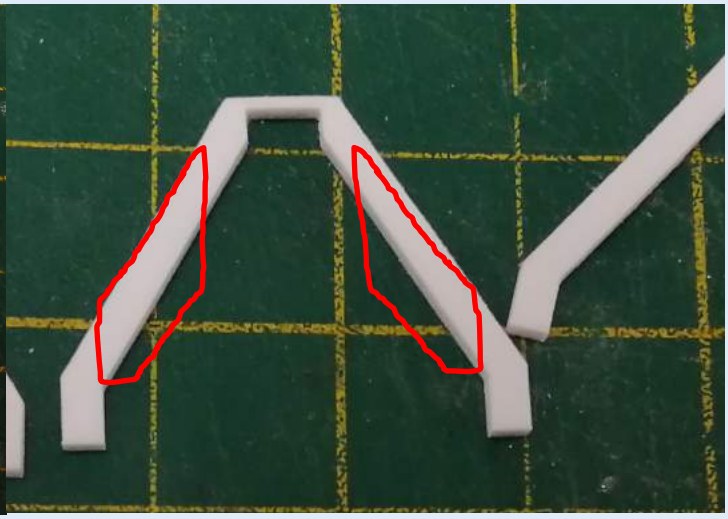
Step 32: The final step before painting is to build the push arm for the front. The arm is made up of the two 3mm acrylic pieces, the resin three point linkage, the resin tube and a short length of the ticker green wire. Glue the two acrylic parts together, glue the resin tube to the curved joint, glue the short length of green rod into the hole at the other end. Glue the linkage to the back on the opposite end to the large tube as pictured. Glue two short lengths on the thin green wire into the bottom two sets of holes in the linkage. This is what the link arm hooks sit on.



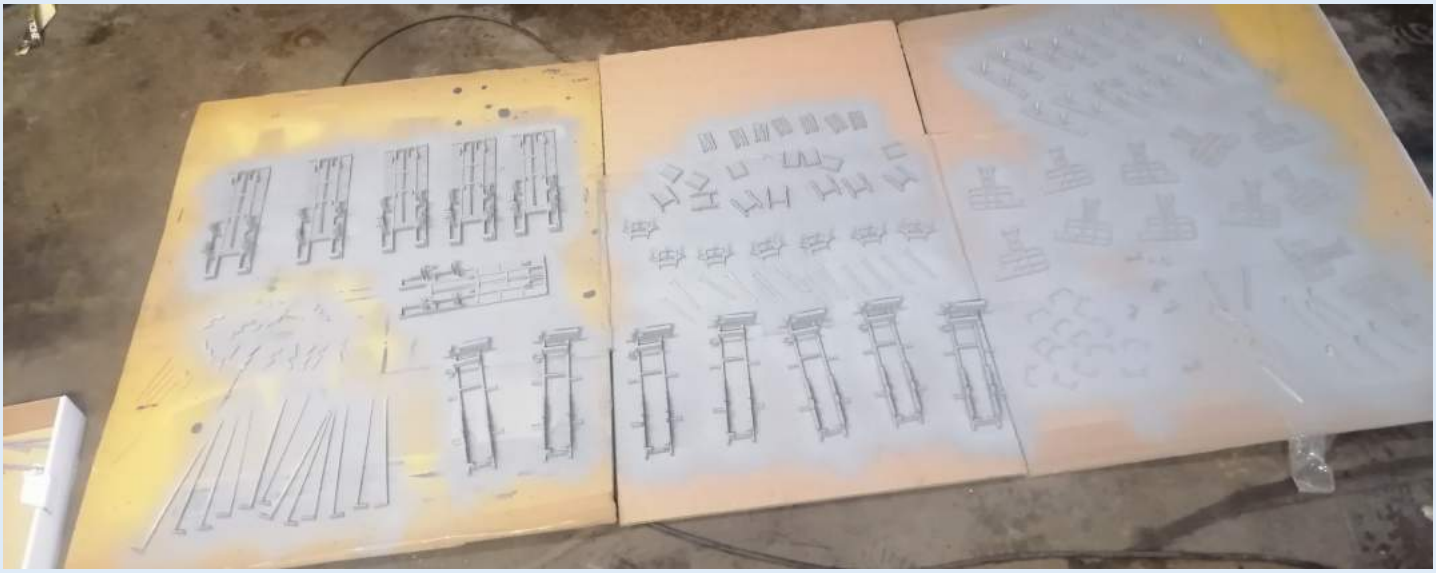


If the A frame converter is required glue 1, 2 and 3 inline then glue 7 and 8 to the back of 3 in the position shown in the second illustration. 4 and 6 glue to the bottom two marked positions on 1 and 5 to the top position.





Step 33: The parts can now be painted before final construction. I won't advise on painting too much as it is not a skill of mine. Do whatever you feel comfortable with, there's hundreds of painting guides available on YouTube. What I will advise is to start with a grey plastic primer, this will act as a good bond between the plastic and the paint. I've always used Halfords Grey Plastic Primer, a good price, easy to get and great to use.



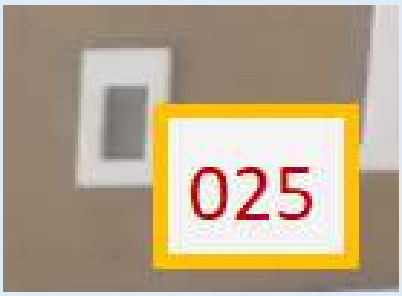
Parts for 7 models, hopefully it should require less space to paint one! I'd also recommend hanging the parts rather than spraying flat

Step 34: For top coat I have gone with using RAL 6001 Emerald Green. Heath green is it's own colour but I don't have a recipe, it is however described as 'John Deere Green but abit lighter' RAL 6001 fits the bill well. I have used a 2k paint in a rattle can. Apply any decals and then finish with a clear coat/varnish .
Leave the paint to dry/cure as long as possible. Many of the painted parts are in contact with one and other so if the paint is to fresh there is the risk of paint chipping, fusing or being damaged if handed too soon.

Step 35: To start assembly I would recommend the balance wheel arm. The arm hinges on the bracket, pinned inplace with some of the thin green wire. (Yours will mount to the outside, I wasn't paying attention to my own instructions). Then insert some green wire into the hole in the chassis and the small hole above the 2mm hole in the arm. The small hydraulic cylinder should slot onto the wire. The small 2mm steel rod is the balance wheel axle, glue into the wheel, slide through the arm and secure it in place by gluing another 5x2 washer to the end of the axle.

Step 36: Next assemble the bale arm slider mechanism. Start with the black plastic strip. Slide it into the front of the chassis with the piece ontop. Glue the 42 and 43 to the strip as pictured. They should be inline with the two holes at the back of the chassis. The two stack pushers slide into these holes and glue to 42 and 43. The strip should slide in the chassis and the stack pushers should move in and out of the rear of the chassis. The stack pushers should have the larger offset of the push plates pointing inwards.

Step 37: The bale support fork fits in by inserting it into the slot running down the centre of the bed. It is secured in place by gluing part 25 to the bottom underneath the bed. This traps the fork between the bed without gluing it to the bed. It is therefore clear to slide along the bed. The tolerances are very tight, you may need to sand away some paint to get the best fit.



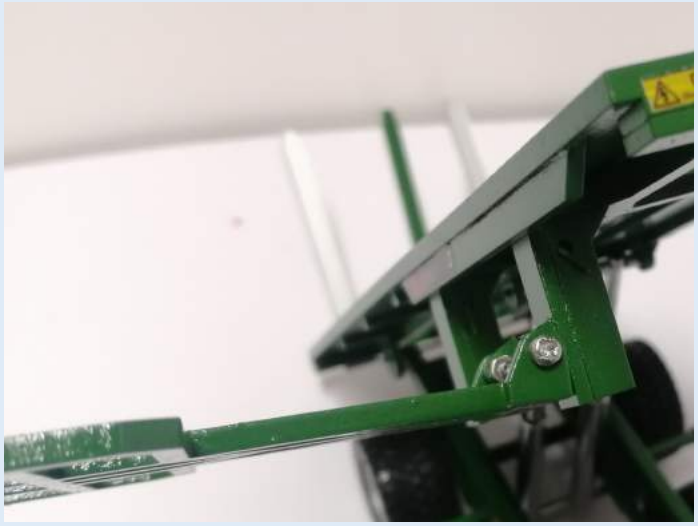
Step 38: The two rear bale forks simply glue into their slots on the back of the bed. Finishing them in silver breaks up the model abit more improving the look. If weathering the model these forks normally have a layer of rust on.

Step 39: Next mount the two large hydraulic rams to the chassis. Thread some of the thicker green wire through the holes in the chassis. The bottom of the hydraulic cylinders sit on this wire. Use the small chrome tubing to space the cylinders out. Simply cut to size and thread on between the rams.

At this point you can now add the wheels. The wheels fit in a similar way to the rams. Put the axle through one wheel, then a small spacer (2/3mm) cut from the black straw is needed. Slot through one side of the chassis then another section of straw the width of the chassis then through the other side of the chassis. Finally another 2/3mm spacer followed by the second wheel. Repeat for both axles and check the tyre tread is points in the right direction.

Step 40: The bed and body can now be bought together. Again using the thick wire connect the hinge on the body with the holes in the end of the chassis and secure. Then repeat step 37 to line up the top of the hydraulic cylinders with the hinge points in the bed.

Step 41: The bale squeeze's can now be bolted into place. The long leg of the arms should point to the front. Use two of the M2 bolts on each arm. Tighten the bolts to pose the bale arm in a desired position. Don't overtighten or you risk snapping a hinge of, or shattering the plastic.



Step 42: The final components to assemble make up the bale arm. The first step is to build up the telescopic boom. Start by slotting the small section into the mid section. Then glue the guard (part 38) to the top of the mid section and let dry. This will lock the small section in place while allowing it to slide the length of the mid section. Repeat this with the mid section in the large section using part 37 for the second guard. Vaseline can be use as grease to keep the parts sliding well and prevent the paint fusing.

Step 43: With the three parts now together you can attach the bale spike. This requires slightly shorter bolts so file two bolts down by 2 to 3 mm. Then line up the arm and fork and bolt together. The forks should point upwards when the arm is laid down with the sheet sections on the top and the cylinders on the bottom.

Step 44: Finally the arm and fork assembly can be bolted to the slider bed. Line the arm up with the bed and bolt in place with the last two M2 bolts.

Step 45: The last little bits are the extending draw bar and bale offset beds. These simple slide into their designated slots and are held in position by pins made of the thin green wire. Both have two pin positions extended and retracted. One pin for the drawbar and two pins for each of the bed plates.

Step 46: Last but not least add any details such as the lights supplied to the rear of the bed. Some weathering of the sliding boom would finish the model off nicely.

And that is your model completed, sit back and enjoy.